## WHAT IS CLAIMED IS:

- An apparatus for remote delivery and manipulation of a miniature tool adjacent a work piece in a restricted space, comprising:
  - a) a tool carrier;
  - b) a carriage for manipulating said tool carrier relative to a work
    piece; and
    - c) a remote actuator for operating said carriage.
- 2. The apparatus of Claim 1, further comprising:
  - a) means for delivery of said tool carrier in a restricted space.
- 3. The apparatus of Claim 1, further comprising:
  - a) a track member operably connected to said carriage; and
  - b) said remote actuator comprising a hydraulic actuator.
- 4. The apparatus of Claim 3, further comprising:
  - a plurality of said track members operably connected to said carriage; and
  - b) said track members being movable relative to said carriage.

- 5. The apparatus of Claim 4, wherein:
  - a) one of said track members is movable independent of the other track members.
- 6. The apparatus of Claim 4, wherein:
  - a) said hydraulic actuator comprises a plurality of actuator pistons; and
  - b) each of said track members is independently operated by a respective carriage piston.
- 7. The apparatus of Claim 6, wherein:
  - a displacement of a carriage piston is substantially similar to
     a displacement of a corresponding actuator piston.
- 8. The apparatus of Claim 7, further comprising:
  - means for synchronizing a displacement of a carriage piston
     with a displacement of a corresponding actuator piston.

- 9. The apparatus of Claim 8, further comprising:
  - a) hydraulic lines for connecting said actuator pistons with said carriage pistons; and
  - b) means for pressurizing said hydraulic lines.
- 10. The apparatus of Claim 1, further comprising:
  - a) a secondary actuator for operating said remote actuator.
- 11. The apparatus of Claim 10, wherein:
  - a) said secondary actuator is positioned remote from said remote actuator.
- 12. The apparatus of Claim 11, further comprising:
  - means for detecting the position of the miniature tool relative to a work piece.
- 13. The apparatus of Claim 12, wherein:
  - a) the miniature tool comprises an ultrasonic testing probe; and
  - b) said position detecting means comprises an encoder operably connected to said remote actuator.

- 14. The apparatus of Claim 13, further comprising:
  - a) imaging means for displaying information about the work piece.
- 15. The apparatus of Claim 1, wherein:
  - a) the miniature tool comprises an ultrasonic testing probe.
- 16. An apparatus for remote delivery and manipulation of a miniature tool adjacent a work piece in a restricted space, comprising:
  - a) a tool carrier;
  - b) carriage means for manipulating said tool carrier relative to a work piece;
  - c) a hydraulic actuator for operating said carriage means; and
  - d) means for delivery of said tool carrier in a restricted space.
- 17. The apparatus of Claim 16, further comprising:
  - a) first means for moving said tool carrier in a circumferential direction of the work piece.

- 18. The apparatus of Claim 17, wherein:
  - a) said first means comprises a track member operably connected to said carriage means and being movable relative thereto.
- 19. The apparatus of Claim 16, further comprising:
  - second means for rotating said tool carrier relative to the work piece.
- 20. The apparatus of Claim 19, wherein:
  - a) said second means comprises a plurality of track members
     operably connected to said carriage means; and
  - each said track member is independently movable relative to said carriage means.
- 21. The apparatus of Claim 19, further comprising:
  - a) third means for moving said tool carrier axially along the work piece.
- 22. The apparatus of Claim 21, wherein:
  - a) said third means comprises said tool carrier delivery means.

- 23. The apparatus of Claim 16, wherein:
  - said carriage means comprises a plurality of movable track
     members; and
  - b) said carriage means comprises a piston for moving one of said track members.
- 24. The apparatus of Claim 23, wherein:
  - said carriage means comprises a plurality of first pistons
     each for moving a corresponding track member.
- 25. The apparatus of Claim 24, wherein:
  - a) said hydraulic actuator comprises a plurality of second pistons corresponding to said first pistons.
- 26. The apparatus of Claim 25, further comprising:
  - a) means for synchronizing a displacement of one of said first pistons with a displacement of a corresponding second piston.

- 27. The apparatus of Claim 26, further comprising:
  - a) hydraulic lines for connecting said first and second pistons;
     and
  - b) means for pressurizing said hydraulic lines.
- 28. The apparatus of Claim 25, wherein:
  - a) said first and second pistons comprise double acting pistons.
- 29. The apparatus of Claim 16, further comprising:
  - a) a secondary actuator for operating said hydraulic actuator.
- 30. The apparatus of Claim 29, wherein:
  - said secondary actuator is positioned remote from said hydraulic actuator.
- 31. The apparatus of Claim 30, further comprising:
  - a) means for detecting the position of the miniature tool relative to a work piece.

- 32. The apparatus of Claim 31, wherein:
  - a) the miniature tool comprises an ultrasonic testing probe; and
  - b) said position detecting means comprises an encoder operably connected to said hydraulic actuator.
- 33. The apparatus of Claim 32, further comprising:
  - imaging means for displaying information about the work piece.
- 34. A method of remote delivery and manipulation of a miniature tool adjacent a work piece in a restricted space, comprising the steps of:
  - a) providing a manipulator apparatus, comprising:
- i) a tool carrier;
  - ii) a carriage assembly for manipulating the tool carrier relative to a work piece, the carriage assembly including first and second movable track members;
  - iii) the carriage assembly including first and second pistons for operating the first and second track members, respectively; and

- iv) a remote hydraulic actuator for operating the carriage assembly;
- b) delivering the manipulator apparatus by a conveyor and positioning adjacent a desired area of the work piece; and
- c) operating the carriage assembly by actuating the remote hydraulic actuator thereby causing one or both track members to move relative to the work piece.

## 35. The method of Claim 34, wherein:

the step c) comprises moving the first and second track members substantially simultaneously to thereby cause the tool carrier to move along a single direction relative to the work piece.

## 36. The method of Claim 34, wherein:

the step c) comprises moving only one of the first and second track members to thereby cause the tool carrier to rotate relative to the work piece.